DOE - SEVERE ACUTE RESPIRATORY SYNDROME (SARS) – Wednesday, July 09, 2003

I have been monitoring the SARS situation and provide the following information that is current as of Thursday, July 10, 2003, 0800 hours, EDT. Information presented is routinely taken from the Centers for Disease Control and Prevention (CDC), http://www.cdc.gov/ncidod/sars/index.htm, The World Health Organization (WHO), http://www.who.int/csr/sars/en/, the Department of Defense Global Emerging Infections Surveillance and Response System site, (DoD-GEIS)-http://www.geis.ha.osd.mil/, and other creditable sources. You will find the most current information in this document up-front.

WHO - Update on cases[1] and countries: From: 1 Nov 2002[2] to 9 July 2003, 12:00 GMT+2, a cumulative total of 8436 probable SARS cases with 812 deaths (9.625% mortality, see charts on p. 3) has been reported from 29 countries. **Since the last weekly update of July 02, 2003, there have been 2 additional cases and zero deaths** - Cumulative number of reported probable cases - 9 July.

CDC – Case Update: Information is from data reported to the World Health Organization on July 7, 2003, http://www.cdc.gov/od/oc/media/sars/cases.htm. In the United States, a total of 421 SARS cases have been reported from 43 states and Puerto Rico, with 347 (82.42%) cases classified as suspect SARS and 74 (17.58%) classified as probable SARS[3].

Recent news

SARS Appears Gone -- For Now

5 July, **WHO Declares SARS Outbreak Contained Worldwide,** says that the last known case of SARS was reported on June 15th. - http://www.who.int/mediacentre/releases/2003/pr56/en/. Officials Fear Comeback Despite No New Victims, *By Rob Stein,* Washington Post Staff Writer, Saturday, July 5, 2003; After infecting more than 8,400 people and killing at least 812, the SARS epidemic appears to have been beaten back, with the virus no longer finding new victims anywhere in the world - http://www.washingtonpost.com/wp-dyn/articles/A10502-2003Jul4.html. **On July 4**, WHO published "**Update 95 - SARS: Chronology of a serial killer**"-http://www.who.int/csr/don/2003_07_04/en/. On 3 July, WHO removed Toronto, Canada, from its list of areas with recent local transmission of SARS. For additional information on this topic, see the WHO "**Update 92 – Chronology of travel recommendations, areas with local transmission**", http://www.who.int/csr/don/2003_07_01/en/.

Summary of WHO measures related to international travel

05 July 2003 Summary of WHO measures related to international travel - 5 July

WHO NO LONGER RECOMMENDS THE RESTRICTION OF TRAVEL TO ANY AREAS.

(See archives of Areas with recent local transmission).

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1 Note: The Cumulative number of cases includes number of deaths. As SARS is a diagnosis of exclusion, the status of a reported case may change over time. **This means that previously reported cases may be discarded after further investigation and follow-up.**

2 The start of the period of surveillance has been changed to 1 November 2002 to capture cases of atypical pneumonia in China that are now recognized as being cases of SARS.

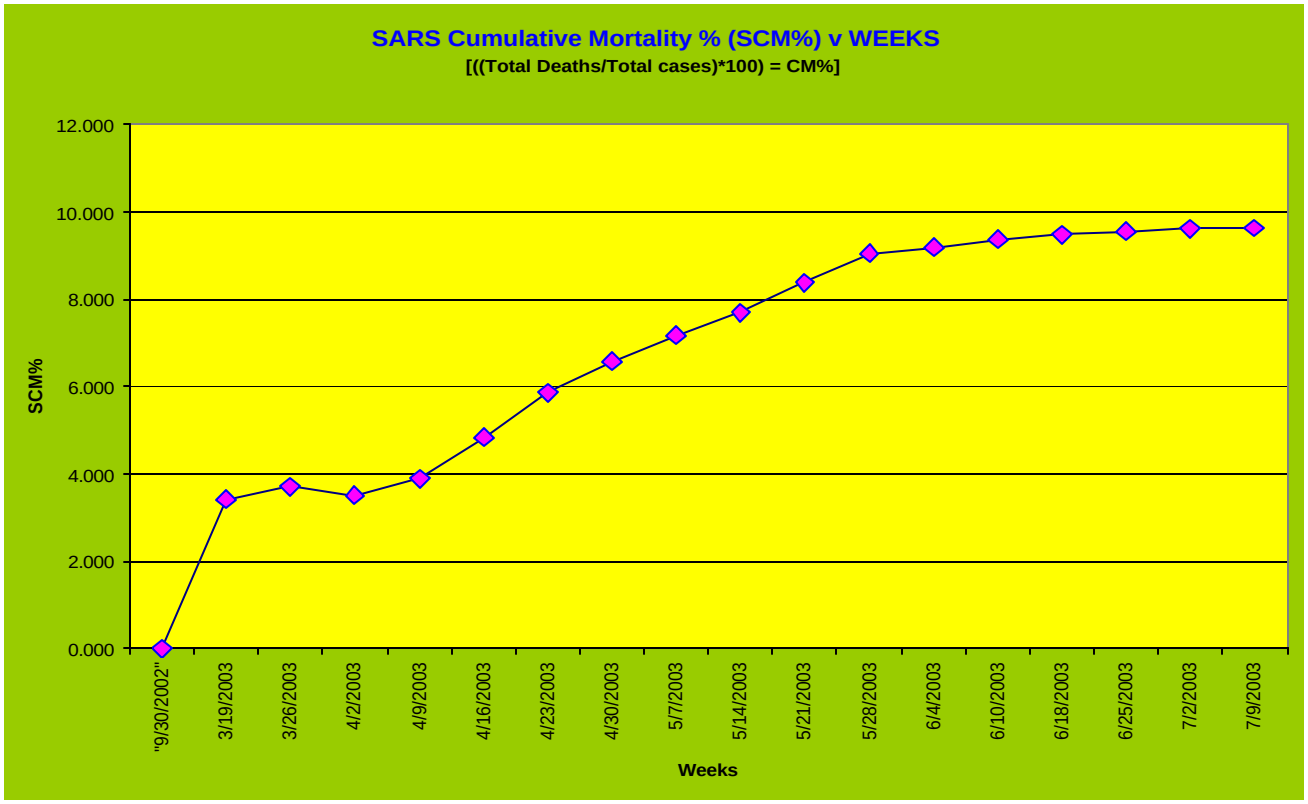
3 **CDC. R**efer to case definition for description of suspect and probable cases and laboratory criteria for SARS-associated coronavirus (SARS-CoV) infection - http://www.cdc.gov/ncidod/sars/casedefinition.htm.

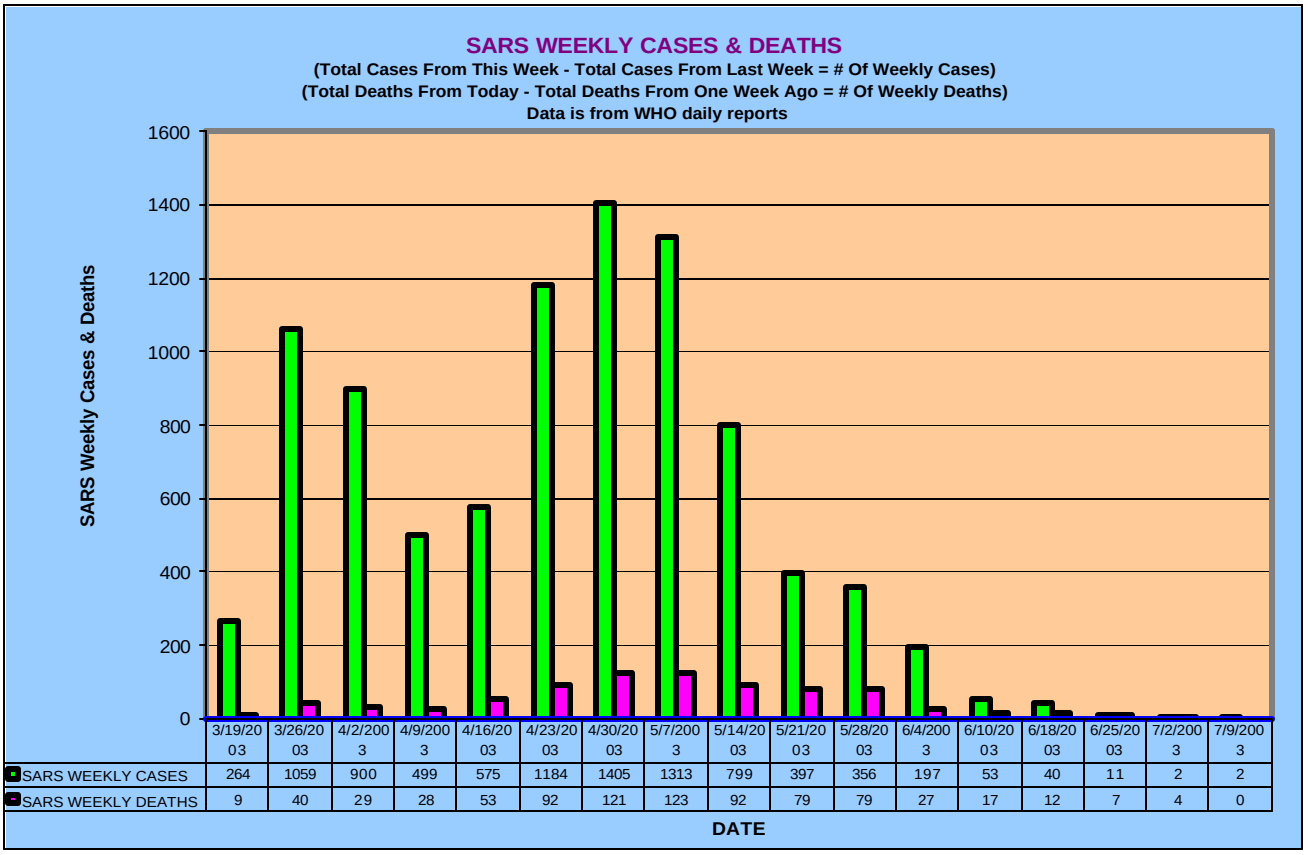
WHO Update 96 - Taiwan, China: SARS transmission interrupted in last outbreak area

5July2003 - Update 96 - Taiwan, China: SARS transmission interrupted in last outbreak area - 5 July

WHO is today removing Taiwan from its list of areas with recent local transmission of SARS. This achievement means that all known chains of person-to-person transmission of the SARS virus have now been broken. “With the last known chain of transmission interrupted in Taiwan, the whole world can breathe an initial sigh of relief,” said Dr David Heymann, the WHO Executive Director for communicable diseases. “At the same time, public health must not let down its guard, as more cases could still surface somewhere in the world. SARS has taught us that a single case is capable of igniting an outbreak.”

“Taiwan was unlucky. A lapse in infection control in a single hospital allowed the outbreak, which had been under good control, to escalate. But the authorities reacted quickly and appropriately. In doing so, they have also strengthened capacity to deal with any future outbreaks.” The last reported probable case in Taiwan, and – for the moment – in the world, was detected and isolated on 15 June. Two consecutive 10-day incubation periods have now passed with no further cases detected. The achievement comes just slightly more than four months since the virus began moving around the world, in late February, along the routes of international air travel. Taiwan’s first case of SARS occurred in a 54-year-old businessman with a travel history, in late February, to Guangdong Province, China, where the earliest cases of SARS are now known to have occurred. The businessman was hospitalized on 8 March. Taiwan eventually had to cope with the third largest outbreak on record, including 674 cases and 84 deaths. The largest outbreaks occurred in mainland China (5327 cases and 348 deaths) and Hong Kong (1755 cases and 298 deaths). The outbreak in Taiwan initially grew slowly, with only 23 probable cases detected in the first month. Of these, a single health care worker, a doctor, became infected when he treated the wife of the businessman. All of the earliest cases could be directly linked to close contact with a SARS patient, or had a history of recent travel to an area where local transmission was known to be occurring. Only 4 of the early cases resulted from secondary spread within Taiwan. The outbreak began to escalate in mid-April following a lapse in infection control procedures, which allowed the disease to spread rapidly within the hospital setting and then into the wider community. In dealing with the emergency that followed, health authorities rapidly introduced a series of sweeping measures. The surveillance system was upgraded and began to deliver the kind of information needed for prompt and targeted action. Hospital procedures for infection control were tightened, and a logistics system was developed to ensure the efficient delivery of protective equipment and other supplies. Mass education campaigns persuaded the population to check frequently for fever and report promptly at fever clinics, which greatly reduced the time between onset of symptoms and isolation of patients. The establishment of a mechanism for coordinating the response of all relevant sectors was another key to Taiwan’s success. The global SARS outbreak developed quickly and dramatically, creating challenging and stressful demands on staff and health authorities at every outbreak site. The containment of SARS required heroic efforts and extraordinary measures that are difficult to sustain over time. “Interruption of the last known chain of person-to-person transmission has come just in time. Health systems at every major outbreak site were strained to the limits of their capacity.” said Dr Heymann. WHO continues to receive rumours of possible cases, which indicates that surveillance systems are working well. To date, all recently reported possible cases have been aggressively investigated and determined to have other causes. Failure to detect new cases over the next two weeks will greatly increase confidence that the SARS coronavirus has indeed been pushed out of its new human host, although a return of the disease cannot be ruled out completely on the basis of current knowledge.





	3/19/2003	3/26/2003	4/2/2003	4/9/2003	4/16/2003	4/23/2003	4/30/2003	5/7/2003	5/14/2003	5/21/2003	5/28/2003	6/4/2003	6/10/2003	6/18/2003	6/25/2003	7/2/2003	7/9/2003
SARS WEEKLY CASES	264	1059	900	499	575	1184	1405	1313	799	397	356	197	53	40	11	2	2
SARS WEEKLY DEATHS	9	40	29	28	53	92	121	123	92	79	79	27	17	12	7	4	0

CDC FACT SHEET - Basic Information About SARS

June 4, 2003 - http://www.cdc.gov/ncidod/sars/factsheet.htm

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Download PDF version formatted for print (329 KB/2 pages)

A new disease called SARS

Severe acute respiratory syndrome (SARS) is a respiratory illness that has recently been reported in Asia, North America, and Europe. This fact sheet provides basic information about the disease and what is being done to combat its spread. To find out more about SARS, go to www.cdc.gov/ncidod/sars/ and www.who.int/csr/sars/en/ . The Web sites are updated daily.

Symptoms of SARS

In general, SARS begins with a fever greater than 100.4°F [>38.0°C]. Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also experience mild respiratory symptoms. After 2 to 7 days, SARS patients may develop a dry cough and have trouble breathing.

How SARS spreads

The primary way that SARS appears to spread is by close person-to-person contact. Most cases of SARS have involved people who cared for or lived with someone with SARS, or had direct contact with infectious material (for example, respiratory secretions) from a person who has SARS. Potential ways in which SARS can be spread include touching the skin of other people or objects that are contaminated with infectious droplets and then touching your eye(s), nose, or mouth. This can happen when someone who is sick with SARS coughs or sneezes droplets onto themselves, other people, or nearby surfaces. It also is possible that SARS can be spread more broadly through the air or by other ways that are currently not known.

Who is at risk for SARS

Most of the U.S. cases of SARS have occurred among travelers returning to the United States from other parts of the world with SARS. There have been very few cases as a result of spread to close contacts such as family members and health care workers. Currently, there is no evidence that SARS is spreading more widely in the community in the United States.

Possible cause of SARS

Scientists at CDC and other laboratories have detected a previously unrecognized coronavirus in patients with SARS. The new coronavirus is the leading hypothesis for the cause of SARS.

What CDC is doing about SARS

CDC is working closely with the World Health Organization (WHO) and other partners in a global effort to address the SARS outbreak. For its part, CDC has taken the following actions:

* Activated its Emergency Operations Center to provide round-the-clock coordination and response.
* Committed more than 700 medical experts and support staff to work on the SARS response.
* Deployed medical officers, epidemiologists, and other specialists to assist with on-site investigations around the world.
* Provided ongoing assistance to state and local health departments in investigating possible cases of SARS in the United States.
* Conducted extensive laboratory testing of clinical specimens from SARS patients to identify the cause of the disease.
* Initiated a system for distributing health alert notices to travelers who may have been exposed to cases of SARS.

CDC RECOMMENDATIONS

CDC has issued recommendations and guidelines for people who may be affected by this outbreak.

For individuals considering travel to areas with SARS:

CDC has issued two types of notices to travelers: advisories and alerts. A ***travel advisory*** recommends that nonessential travel be deferred; a ***travel alert*** does not advise against travel, but informs travelers of a health concern and provides advice about specific precautions. CDC updates information on its website on the travel status of other areas with SARS as the situation evolves.

For individuals who must travel to an area with SARS:
CDC advises that travelers in an area with SARS should wash their hands frequently to protect against SARS infection. In addition, CDC advises that travelers may wish to avoid close contact with large numbers of people as much as possible to minimize the possibility of infection. CDC does not recommend the routine use of masks or other personal protective equipment while in public areas. For more information, read the Interim Guidelines about Severe Acute Respiratory Syndrome (SARS) for Persons Traveling to Areas with SARS.

For individuals who think they might have SARS:
People with symptoms of SARS (fever greater than 100.4°F [>38.0°C] accompanied by a cough and/or difficulty breathing) should consult a health-care provider. To help the health-care provider make a diagnosis, tell them about any recent travel to places where SARS has been reported or whether there was contact with someone who had these symptoms.

For family members caring for someone with SARS:
CDC has developed interim infection control recommendations for patients with suspected SARS in the household. These basic precautions should be followed for 10 days after respiratory symptoms and fever are gone. During that time, SARS patients are asked to limit interactions outside the home (not go to work, school, or other public areas).

For health-care workers:
Transmission of SARS to health-care workers appears to have occurred after close contact with sick people before recommended infection control precautions were put into use. CDC has issued interim infection control recommendations for health-care settings as well as for the management of exposures to SARS in health-care and other institutional settings.
For more information, visit CDC's SARS Web site, or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

CDC - Frequently Asked Questions and Answers on SARS

June 10, 2003 - http://www.cdc.gov/ncidod/sars/faq.htm

CDC Updated Interim U.S. Case Definition of Severe Acute Respiratory Syndrome (SARS)

June 5, 2003 - Download PDF version formatted for print (344 KB/3 pages)
- http://www.cdc.gov/ncidod/sars/casedefinition.htm

The previous CDC SARS case definition (published May 23, 2003) has been updated as follows:

- In the Epidemiologic Criteria, the last date of illness onset for inclusion as reported case for Singapore is now June 14, 2003.

Clinical Criteria

- Asymptomatic or mild respiratory illness
- Moderate respiratory illness
  - Temperature of >100.4º F (>38º C)*, and
  - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia).
- Severe respiratory illness
  - Temperature of >100.4º F (>38º C)*, and
  - One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia), and
  - radiographic evidence of pneumonia, or
  - respiratory distress syndrome, or
  - autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause.

Epidemiologic Criteria

- Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or previously documented or suspected community transmission of SARS (see Table), or
- Close contact[§] within 10 days of onset of symptoms with a person known or suspected to have SARS

Travel criteria for suspect or probable U.S. cases of SARS		
Area	First date of illness onset for inclusion as reported case‡	Last date of illness onset for inclusion as reported case†
China (mainland)	November 1, 2002	Ongoing
Hong Kong	February 1, 2003	Ongoing
Hanoi, Vietnam	February 1, 2003	May 25, 2003
Singapore	February 1, 2003	June 14, 2003
Toronto, Canada	April 23, 2003	Ongoing
Taiwan	May 1, 2003	Ongoing

Laboratory Criteria

- **Confirmed**
  - Detection of antibody to SARS-CoV in specimens obtained during acute illness or >21 days after illness onset, or
  - Detection of SARS-CoV RNA by RT-PCR confirmed by a second PCR assay, by using a second aliquot of the specimen and a different set of PCR primers, or
  - Isolation of SARS-CoV.
- Negative
  - Absence of antibody to SARS-CoV in convalescent serum obtained >21 days after symptom onset.
- Undetermined
  - Laboratory testing either not performed or incomplete.

Case Classification**

- Probable case: meets the clinical criteria for severe respiratory illness of unknown etiology and epidemiologic criteria for exposure; laboratory criteria confirmed, negative, or undetermined.
- Suspect case: meets the clinical criteria for moderate respiratory illness of unknown etiology, and epidemiologic criteria for exposure; laboratory criteria confirmed, negative, or undetermined.

Exclusion Criteria

A case may be excluded as a suspect or probable SARS case if:

- An alternative diagnosis can fully explain the illness***
- The case was reported on the basis of contact with an index case that was subsequently excluded as a case of SARS (e.g., another etiology fully explains the illness) provided other possible epidemiologic exposure criteria are not present

Also see:

- MMWR: Updated Interim Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS)— April 29, 2003

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* A measured documented temperature of >100.4º F (>38º C) is preferred. However, clinical judgment should be used when evaluating patients for whom a measured temperature of >100.4º F

(>38º C) has not been documented. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Reporting authorities should consider these factors when classifying patients who do not strictly meet the clinical criteria for this case definition.
§ Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief period of time.
‡ The WHO has specified that the surveillance period for China should begin on November 1; the first recognized cases in Hong Kong, Singapore and Hanoi (Vietnam) had onset in February 2003. The dates for Toronto and Taiwan are linked to CDC's issuance of travel recommendations.
† The last date for illness onset is 10 days (i.e., one incubation period) after removal of a CDC travel alert. The case patient's travel should have occurred on or before the last date the travel alert was in place.
¶Assays for the laboratory diagnosis of SARS-CoV infection include enzyme-linked immunosorbent assay, indirect fluorescent-antibody assay, and reverse transcription polymerase chain reaction (RT-PCR) assays of appropriately collected clinical specimens (Source: CDC. Guidelines for collection of specimens from potential cases of SARS. Available at www.cdc.gov/ncidod/sars/specimen_collection_sars2.htm). Absence of SARS-CoV antibody from serum obtained ≤21 days after illness onset, a negative PCR test, or a negative viral culture does not exclude coronavirus infection and is not considered a definitive laboratory result. In these instances, a convalescent serum specimen obtained >21 days after illness is needed to determine infection with SARS-CoV. All SARS diagnostic assays are under evaluation.
** Asymptomatic SARS-CoV infection or clinical manifestations other than respiratory illness might be identified as more is learned about SARS-CoV infection.
*** Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS, the specificity of the diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

CDC - Interim Guidelines about Severe Acute Respiratory Syndrome (SARS) for Persons in the General Workplace Environment

May 8, 2003, 5:00 PM ET - http://www.cdc.gov/ncidod/sars/workplaceguidelines.htm
Download PDF version formatted for print (132 KB/1 page)

The Centers for Disease Control and Prevention (CDC) is investigating the spread of a respiratory illness called severe acute respiratory syndrome (SARS). CDC has issued various levels of advice for people traveling to areas with SARS. For some areas, CDC has issued travel advisories, recommending against nonessential travel. You can learn more about SARS from the World Health Organization. These websites will be updated as soon as new information is learned.

SARS is an infectious illness that appears to spread primarily by close person-to-person contact, such as in situations in which persons have cared for, lived with, or had direct contact with respiratory secretions and/or body fluids of a person known to be a suspect SARS case. Potential ways in which infections can be transmitted by close contact include touching the skin of other persons or objects that become contaminated with infectious droplets and then touching your eyes, nose or mouth. Workers, who in the last 10 days have traveled to a known SARS area, or have had close contact with a co-worker or family member with suspected or probable SARS could be at

increased risk of developing SARS and should be vigilant for the development of fever (greater than 100.4° F) or respiratory symptoms (e.g., cough or difficulty breathing). If these symptoms develop you should not go to work, school, or other public areas but should seek evaluation by a health-care provider and practice infection control precautions recommended for the home or residential setting; **be sure to contact your health-care provider beforehand to let them know you may have been exposed to SARS so arrangements can be made, as necessary, to prevent transmission to others in the healthcare setting.** For more information about the signs and symptoms of SARS, please visit CDC's website. More detailed guidance on management of symptomatic persons who may have been exposed to SARS, such as how long you should avoid public areas is available at the exposure management page.

As with other infectious illnesses, one of the most important and appropriate preventive practices is careful and frequent hand hygiene. Cleaning your hands often using either soap and water or waterless alcohol-based hand sanitizers removes potentially infectious materials from your skin and helps prevent disease transmission.

The routine use of personal protective equipment (PPE) such as respirators, gloves, or, using surgical masks for protection against SARS exposure is currently not recommended in the general workplace (outside the health-care setting).

WHO - First data on stability and resistance of SARS coronavirus compiled by members of WHO laboratory network

4 May 2003 - http://www.who.int/csr/sars/survival_2003_05_04/en/index.html
This information has been provided by Members of the WHO multi-center collaborative network on SARS diagnosis. The major conclusions from these studies are:
Virus survival in stool and urine

- **Virus is stable in faeces (and urine) at room temperature for at least 1-2 days.**
- **Virus is more stable (up to 4 days) in stool from diarrhea patients (which has higher ph) than in normal stool where it could only be found for up to 6h.**

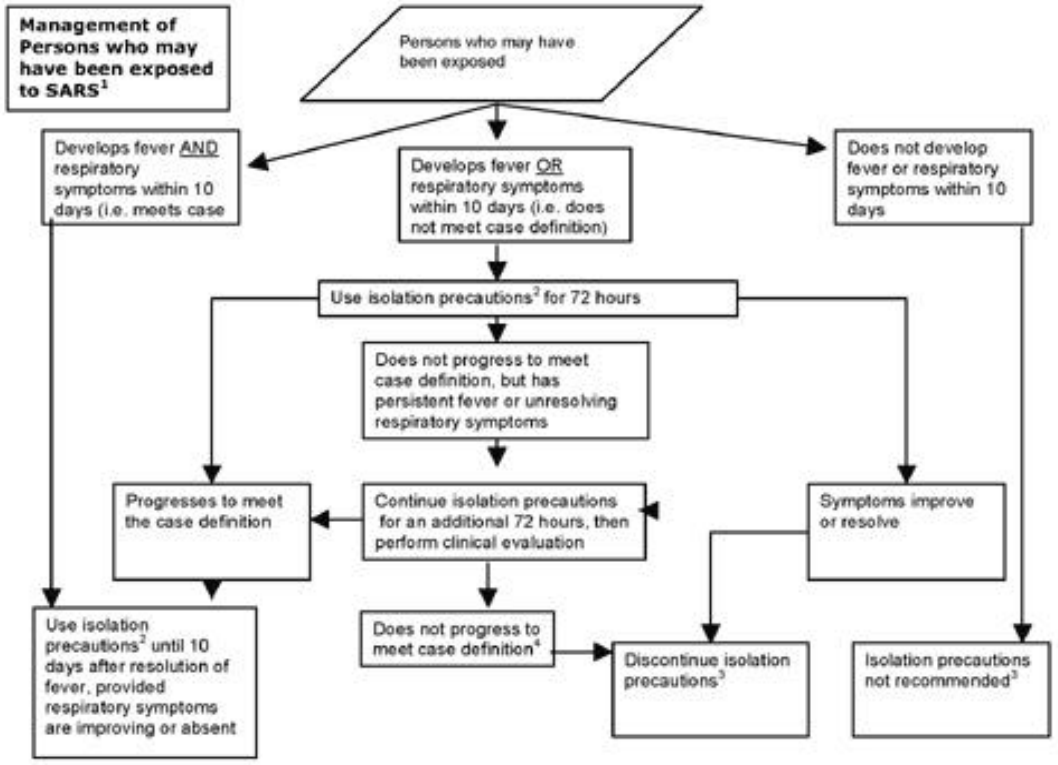
Disinfectants and fixatives (for use in laboratories)

- Virus loses infectivity after exposure to different commonly used disinfectants and fixatives.

Virus survival in cell-culture supernatant

- Only minimal reduction in virus concentration after 21 days at 4°C and -80°C.
- Reduction in virus concentration by one log only at stable room temperature for 2 days. This would indicate that the virus is more stable than the known human coronaviruses under these conditions.
- Heat at 56°C kills the SARS coronavirus at around 10000 units per 15 min (quick reduction).

http://www.cdc.gov/ncidod/sars/exposuremanagementframe.htm



[1]Exposure includes travel from areas with documented or suspected community transmission of SARS (link to case definition) or close contact with persons who have SARS; Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief period of time.

[2]Isolation precautions include limiting patient's interactions with others outside the home (e.g. should not go to work, school, out of home day care, church or other public areas), and following infection control guidelines for the home or residential setting (link) if not admitted to hospital for care.

[3]Persons need not limit interactions outside of home (e.g., need not be excluded from work, school, out of home day care, church or other public areas).

[4]Discontinuation of isolation precautions for patients who have not met the case definition 6 days following onset of symptoms, but who have persistent fever or respiratory symptoms should be done only after consultation with local public health authorities and the evaluating clinician. Factors that might be considered include the nature of the potential exposure to SARS, nature of contact with others in the residential or work setting, and evidence for an alternative diagnosis.